WHAT IS CLAIMED IS:

1. A device comprising:

a substrate including a top surface and a bottom surface; and

one or more sample processing pathways, each comprising

a first sample-containment feature at least partially defined by the substrate and including an inlet portion and an outlet portion, and

a reservoir in fluid communication with the sample-containment feature and comprising a distal end portion including a closed end, wherein the reservoir extends away from the outlet portion, and the distal end portion is arranged closer to the inlet portion than to the outlet portion.

2. The device of claim 1, wherein each of the one or more sample processing pathways further comprises an upstream sample-containment feature and a first valve arranged between the upstream sample-containment feature and the inlet portion of the first sample-containment feature, the first valve being capable of forming at least one fluid communication between the upstream sample-containment feature and the first sample-containment feature.

3. The device of claim 2, wherein the upstream sample-containment feature comprises a sample-loading manifold.

4. The device of claim 3, wherein each of the one or more sample processing pathways further comprises a fluid sample disposed in the upstream sample-containment feature and wherein the reservoir is capable of trapping gas displaced from the first sample-containment

feature upon transferring the fluid sample from the upstream sample-containment feature into the first sample-containment feature.

5. The device of claim 1, wherein each of the one or more sample processing pathways further comprises a downstream sample-containment feature and a second valve arranged between the outlet portion and the first sample-containment feature, the second valve being capable of forming at least one fluid communication between the first sample-containment feature and the downstream sample-containment feature.

6. The device of claim 5, wherein each of the one or more sample processing pathways further comprises a liquid disposed in the first sample-containment feature and gas disposed in the reservoir, wherein when the second valve is opened, the gas in the reservoir is capable of assisting a transfer of the liquid from the first sample-containment feature through the second valve and into the downstream sample-containment feature.

7. The device of claim 1, wherein the reservoir extends in a direction that is angled at an angle of from about 10° to about 40° with respect to a straight line that intersects the inlet portion and the outlet portion.

8. The device of claim 1, wherein the reservoir extends in a direction that is angled at an angle of from about 20° to about 30° with respect to a straight line that intersects the inlet portion and the outlet portion.

9. The device of claim 1, wherein the first sample-containment feature has a volume and the reservoir defines a volume that is from about 10% to about 100% of the volume of the first sample-containment feature.

10. The device of claim 9, wherein the reservoir defines a volume that is from about 25% to about 75% of the volume of the first sample-containment feature.

11. The device of claim 1, wherein the device is disk-shaped and includes an axis of rotation.

12. The device of claim 11, wherein the reservoir extends in a direction toward the axis of rotation and the distal end portion of the reservoir is arranged closer to the axis of rotation than is the first sample-containment feature.

13. A system comprising:

a rotatable platen comprising an axis of rotation; and

the device of claim 1,

wherein the device is secured to the platen, the reservoir extends in a direction toward the axis of rotation, and the distal end portion of the reservoir is arranged closer to the axis of rotation than is the first sample-containing feature.

14. The device of claim 1, wherein the one or more sample processing pathways comprises a plurality of sample processing pathways.

15. The device of claim 1, wherein the one or more sample processing pathways comprises 48 or more sample processing pathways.

16. The device of claim 1, wherein at least one of the first sample-containment feature and the reservoir has one or more dimensions that is less than or equal to about 500 micrometers.

17. A device comprising:

a substrate including a top surface and a bottom surface; and

one or more sample processing pathways, each comprising

a first sample-containment feature formed in the substrate;

a second sample-containment feature formed in the substrate;

a fluid communication valve disposed between the first and second sample-containment features; and

an elongated reservoir formed in the substrate and including a closed end;

wherein the first sample-containment feature is arranged in fluid communication with the elongated reservoir and the elongated reservoir extends in a direction away from the first and second sample-containment features.

18. The device of claim 17, wherein the fluid communication valve is open and provides a fluid communication between the first and second sample-containment features.

19. The device of claim 17, further comprising a liquid disposed in the first sample-containment feature and gas disposed in the elongated reservoir, wherein the fluid

communication valve is capable of being opened and the gas in the elongated reservoir is capable of assisting a transfer of the liquid from the first sample-containment feature through the fluid communication valve and into the second sample-containment feature.

20. The device of claim 17, wherein the elongated reservoir extends in a direction angled at an angle of from about 10° to about 40° with respect to a straight line that intersects the first and second sample-containment features.

21. The device of claim 17, wherein the elongated reservoir extends in a direction angled at an angle of from about 20° to about 30° with respect to a straight line that intersects the first and second sample-containment features.

22. The device of claim 17, wherein the first sample-containment feature has a volume and the elongated reservoir defines a volume that is from about 10% to about 100% of the volume of the first sample-containment feature.

23. The device of claim 22, wherein the elongated reservoir defines a volume that is from about 25% to about 75% of the volume of the first sample-containment feature.

24. The device of claim 17, wherein the device is disk-shaped and includes an axis of rotation.

25. The device of claim 24, wherein the elongated reservoir extends in a direction toward the axis of rotation and the closed end of the elongated reservoir is arranged closer to the axis of rotation than is the first sample-containment feature.

26. A system comprising:

the device of claim 17;

a platen having an axis of rotation and capable of being rotated about the axis of rotation; and

a holder capable of securing the device to the platen.

27. The system of claim 26, further comprising a drive assembly capable of rotating the platen about the axis of rotation.

28. The system of claim 26, wherein the holder secures the device to the platen such that the distal end portion of the reservoir is situated closer to the axis of rotation than is the first sample-containment feature.

29. The system of claim 26, wherein the device is disk-shaped and includes a central axis of rotation.

30. The system of claim 26, wherein the holder secures the device to the platen such that the central axis of rotation of the device and the axis of rotation of the platen are coaxial, and the reservoir extends in a direction towards the axis of rotation such that the closed end

of the reservoir is arranged closer to the axis of rotation than is the first sample-containment feature.

31. The device of claim 17, wherein the one or more sample processing pathways comprises a plurality of sample processing pathways.

32. The device of claim 17, wherein the one or more sample processing pathways comprises 48 or more sample processing pathways.

33. The device of claim 17, wherein at least one of the first sample-containment feature and the reservoir has one or more dimensions that is less than or equal to about 500 micrometers.

34. A method comprising:

providing a device including a sample-containment feature and a reservoir in fluid communication with the sample-containment feature, the sample-containment feature including an inlet portion and an outlet portion and containing a gas, the reservoir including a closed end;

spinning the device to load a liquid into the sample-containment feature through the inlet portion; and

trapping gas in the reservoir which is displaced from the sample-containment feature as the sample-containment feature is loaded with the liquid.

35. The method of claim 34, further comprising spinning the device and forcing the liquid or a reaction product thereof out of the sample-containment feature through the outlet portion.

36. A method comprising:

providing a device including a sample-containment feature and a reservoir in fluid communication with the sample-containment feature, the sample-containment feature including an outlet portion, the reservoir including a closed end and containing a gas;

providing a liquid in the sample-containment feature; and

spinning the device to force the liquid out of the sample-containment feature through the outlet portion.

37. The method of claim 36, wherein the device comprises a fluid communication valve in fluid communication with the outlet portion, and the method further comprises opening the fluid communication valve.